

Panasonic

**Operating Instructions
LCD Projector**

TC-LT1 series

This is a combined Operating
Instruction manual for all the
above series of models.

Please read these instructions
before operating your set and
retain them for future reference.

Dear Panasonic Customer

Welcome to the Panasonic family of Customers. We hope that you will have many years of enjoyment from your new LCD Projector.

To obtain maximum benefit from your projector, please read these instructions before making any adjustments, and retain them for future reference. Retain your purchase receipt also, and note down the Model Number and Serial Number of your projector in the space provided on the rear cover of these instructions.

Trademarks

- VGA is a trademark of International Business Machines Corporation.
- Macintosh is a registered trademark of Apple Computer, USA.
- PC-98 is a registered trademark of NEC Co., Ltd.
- S-VGA is a registered trademark of the Video Electronics Standard Association.


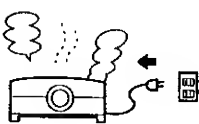
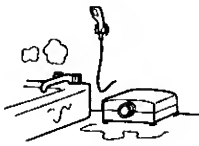
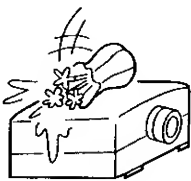
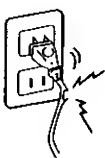


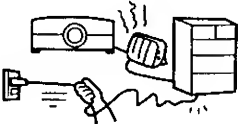
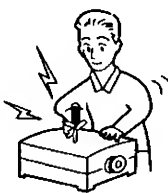
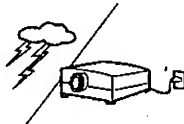

Even if no special notation has been made of company or product trademarks, these trademarks have been fully respected.

This Video Projector is for household use.

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Warnings and Cautions

 Warnings			
	<p>Unplug the power cord in the event of any malfunction (screen goes blank, no sound, odd sounds, smoke or unusual odors coming from the unit).</p> <p>Unplug the power cord if foreign matter or water falls into the unit, or if the unit is dropped or the cabinet is damaged.</p>		<p>DO NOT use this unit near water. (near a bath tub, etc.)</p>
	<p>DO NOT place any of the following on the unit: Flower vases, flower pots, cups, small metal objects, or cosmetics containers, chemicals or water.</p>		<p>DO NOT use if the power cord or power plug is damaged, or if the plug does not fit tightly into the socket.</p>
	<p>DO NOT insert foreign objects (metal or easily flammable objects).</p>		<p>DO NOT use at a voltage other than indicated.</p>
	<p>TAKE CARE NOT to damage the power cord.</p>		<p>DO NOT remove the top cover as live parts and High Voltage components are accessible when the top cover is removed.</p>
	<p>DO NOT touch this unit when there is lightning.</p>		<p>DO NOT place in an unstable location.</p>

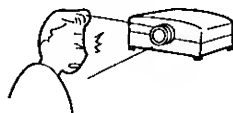
Warnings and Cautions



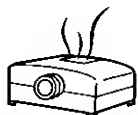
Cautions



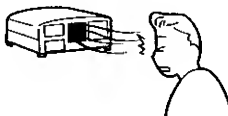
DO NOT place in humid or dusty locations, or areas exposed to smoke or steam.
DO NOT place in direct sunlight and other sources of direct heat.



DO NOT look into the projection lens when the projector is in use.
The projection lens emits strong light. Looking into this lens may damage your vision.



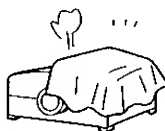
Make sure that the lamp has cooled off fully before replacing the lamp unit.
(Caution, High Temperature)
The lamp will be very hot immediately after use. Touching it can cause burns, and objects placed in contact with the lamp may be deformed or damaged by the heat.



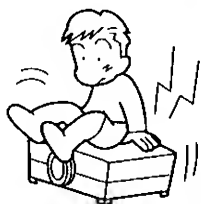
Be careful of hot air being expelled from the air exhaust vent.
The air exhaust vent expels hot air. Do not place your hand or face in front of this vent as you may be burned. Also do not place objects sensitive to heat near this vent, as they may be damaged or warped by the hot air.



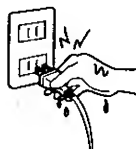
Please ask your dealer or installation company about installing or attaching before attempting to do so (depending on the type of residence you have, certain types of installation may not be possible).



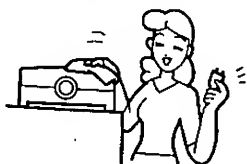
DO NOT OBSTRUCT VENTILATION HOLES.
Excess internal heat may lead to fire or damage to the unit. Please observe the following:
• Do not place it in confined spaces such as cabinets or bookshelves.
• Do not cover it with sheets.
Do not place it on carpets or mattresses.



DO NOT stand, or place heavy objects on the unit. Particular care should be taken by families with small children.



DO NOT touch the power plug if your hands are wet.



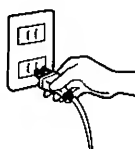
Before cleaning, unplug the power plug from the socket.



Unplug the power plug from the socket if you are not going to use the unit for an extended period.



Turn the power "Off" before connecting other electrical equipment.

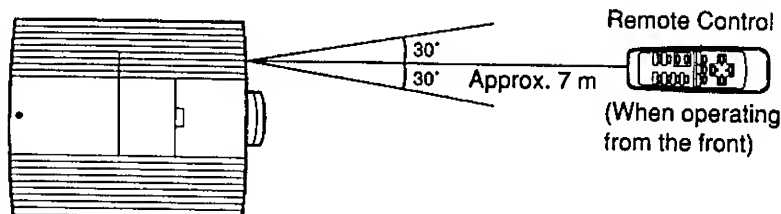


Hold the plug by hand when unplugging it from the wall outlet.

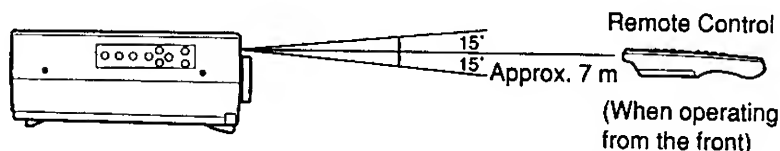
Read Before Using

■ Effective Distance for Operation Using the Remote Control

View From Directly Above



View From the Side

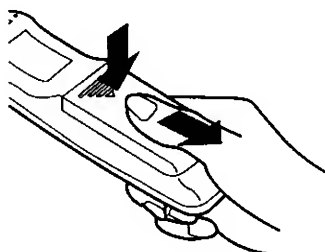


Note

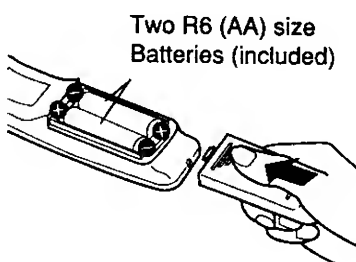
- The remote control must be within 7 m of the optical receiver in order to operate the unit.
- Shining strong light on the optical receiver of the projector may interfere in transmission between the remote control and the receiver, and prevent the remote control from operating properly.

■ Inserting the Battery

- 1 Open the cover**
Apply slight downward pressure while pulling towards the bottom.



- 2 Put in batteries and close the cover**
Insert the batteries ensuring correct polarity. This is identifiable by the "+" and "-" symbols on both the batteries and inside the battery compartment. Replace the cover.



Caution

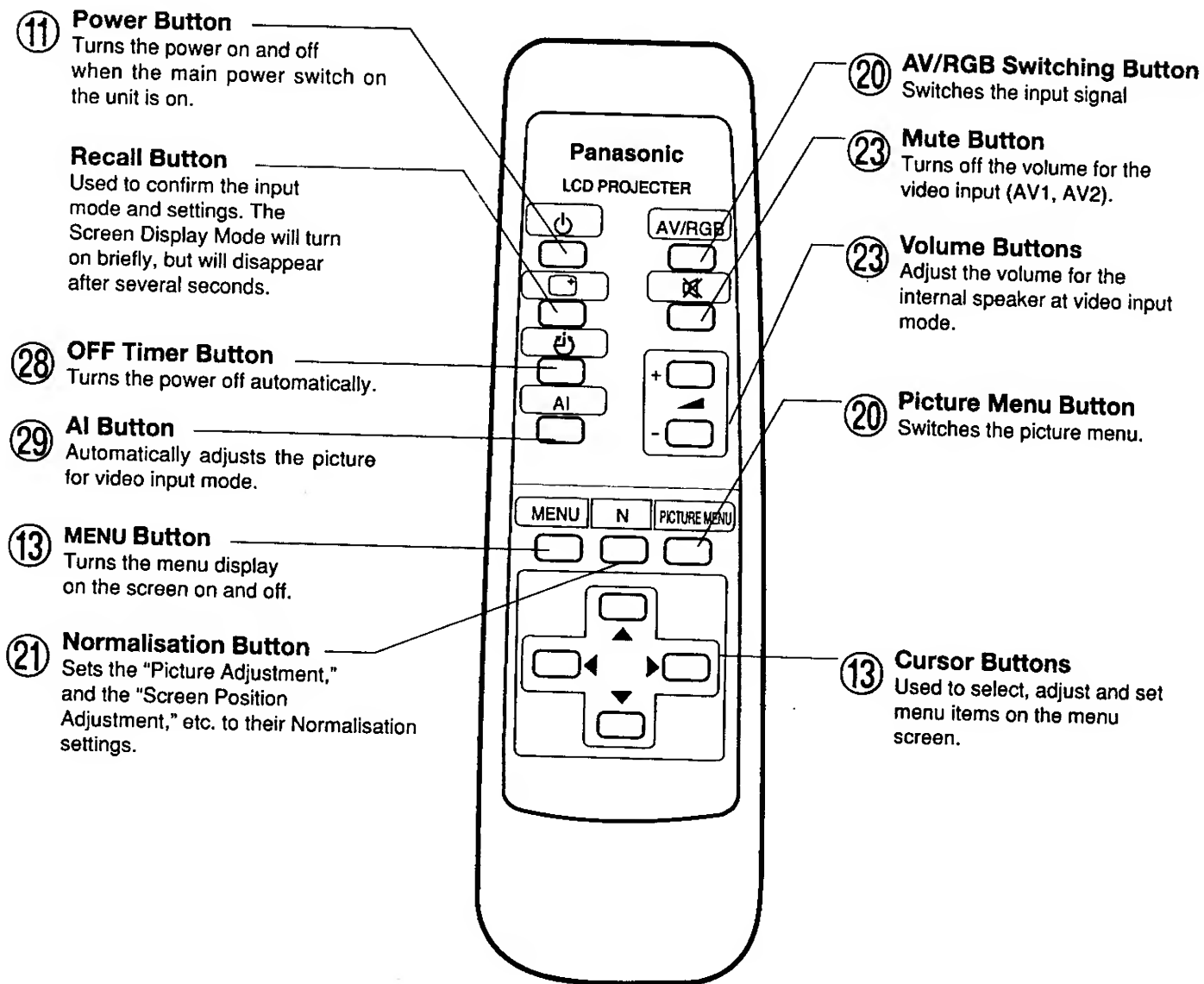
To prevent damage or leaking from the batteries:

- Do not mix different types of batteries or new and old batteries, and do not use rechargeable batteries (Ni-Cd). They are different in shape and performance and may fail to ensure correct operation.
- The batteries cannot be recharged.
- Do not mix the batteries in with the burnable trash, or burn or disassemble the batteries.

Description of Each Section

The circled numbers listed (example ②①) indicate the page on which the explanation of that section begins.

Remote Control



Note

- Please take care not to drop the remote control.
- Please take care to prevent the remote control from coming into contact with liquids.
- The projector can also be operated by the power, input-switch, menu, cursor, and volume buttons on the main unit.

Description of Each Section

■ Drawing in and out the mirror unit.

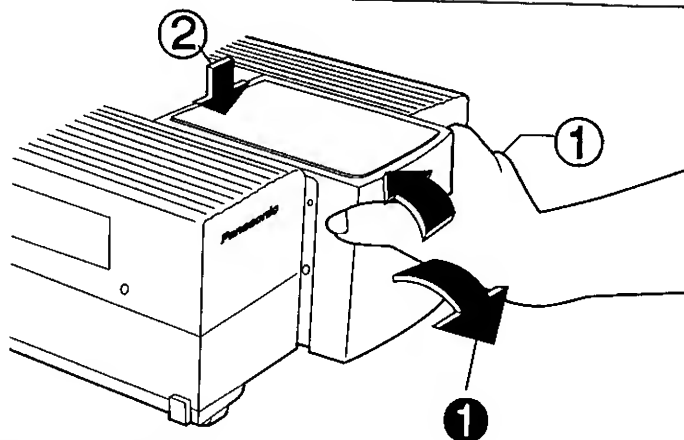
The mirror unit can be folded up and stored when not in use.

Drawing out

① Pull out the cover section, and adjust the mirror angle for use.

Drawing in

① Press the cover in to draw it in.
② Press the mirror in to draw it in.



■ Attaching and removing the mirror unit.

Removing

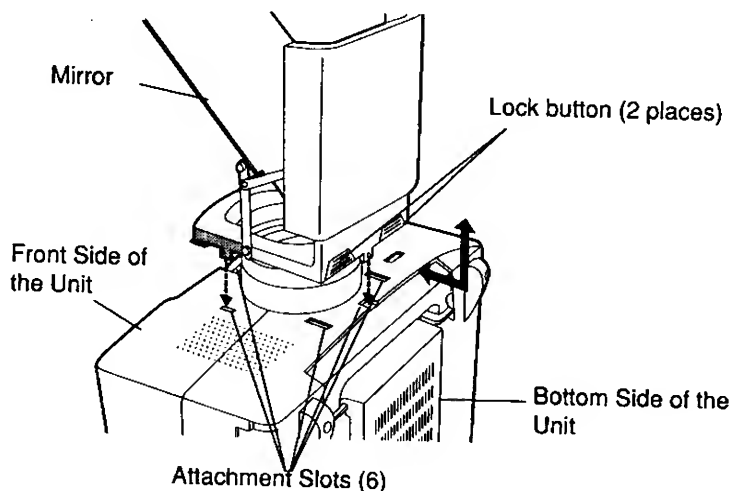
Pull out after sliding the mirror unit towards the bottom of the main unit.

Attaching

Press until the attachment knobs on the mirror box slide into the attachment slots on the main unit, and lock with a click.

Note

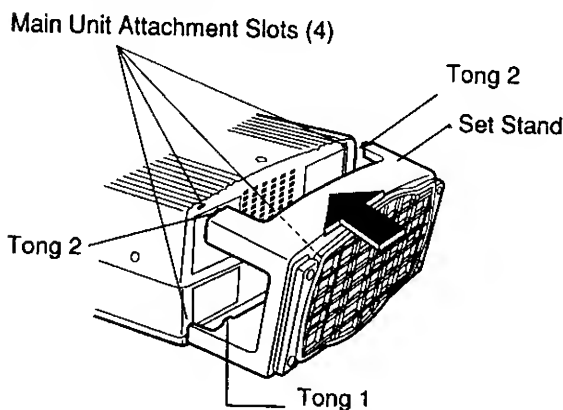
- The lens cap cannot be put on with the mirror unit attached.



■ Attaching and Removing the Set Stand

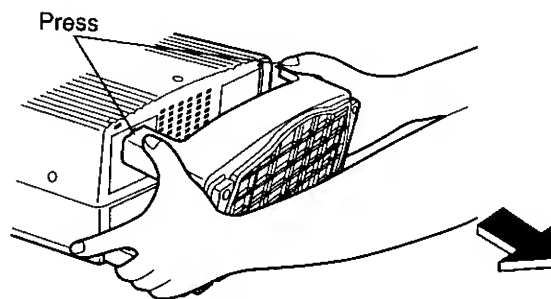
Attaching

Slide the set stand into the attachment slots on the unit, and push in until the stand locks with a click. When setting up the set stand, insert tongs 2 after inserting tong 1.



Removing

Press on the two spots above the set stand to unlock, and pull back to remove.



■ Notes on attaching the terminal caps

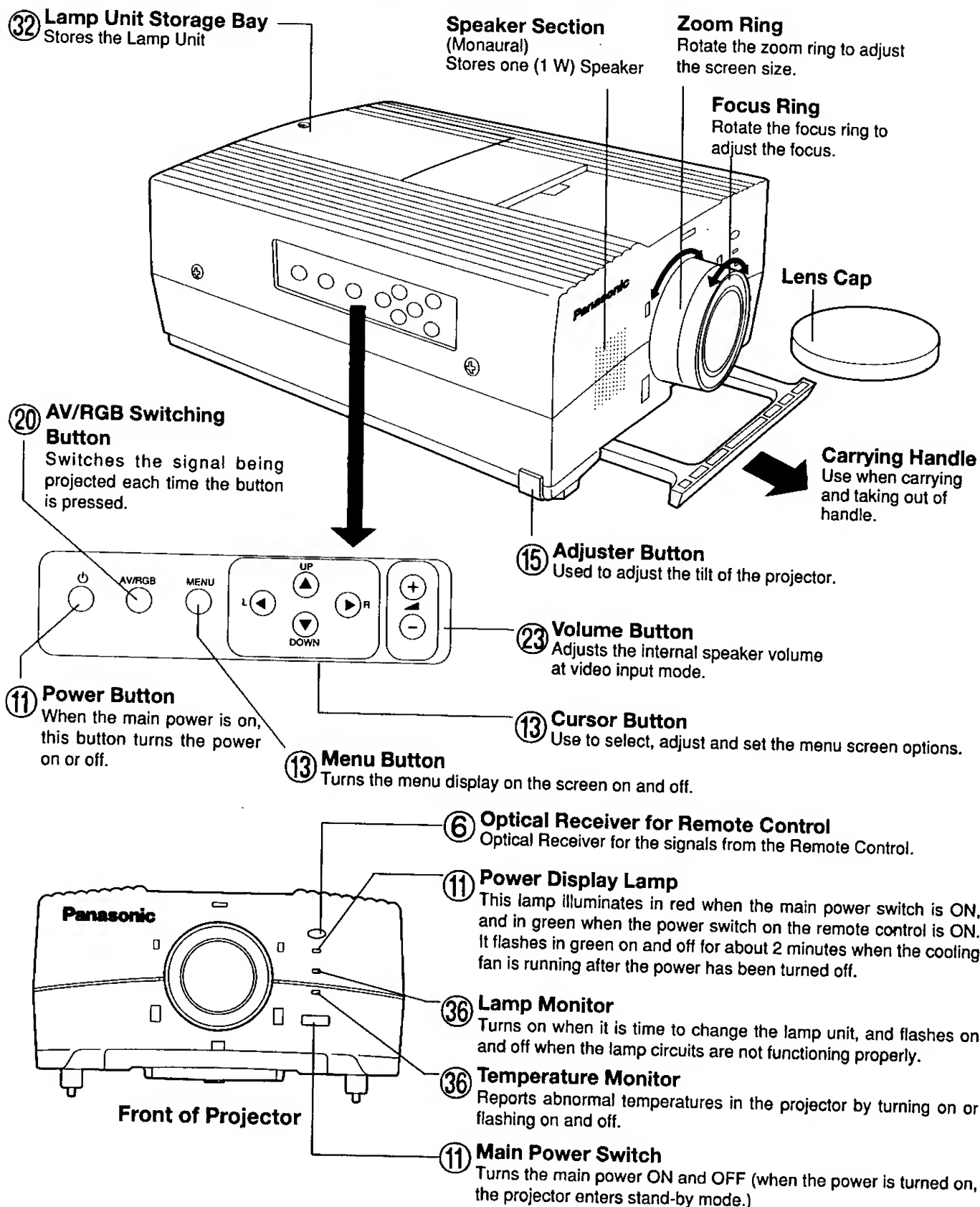
The terminal caps (included as standard) on the back terminal section are for the purpose of preventing dust from falling into the terminal section. Please attach these caps to those terminals that are not connected to cables.

Description of Each Section

The circled numbers listed (example ②①) indicate the page on which the explanation of that section begins.

Projector

<Operating panels on Top, Front and Side.>



Description of Each Section

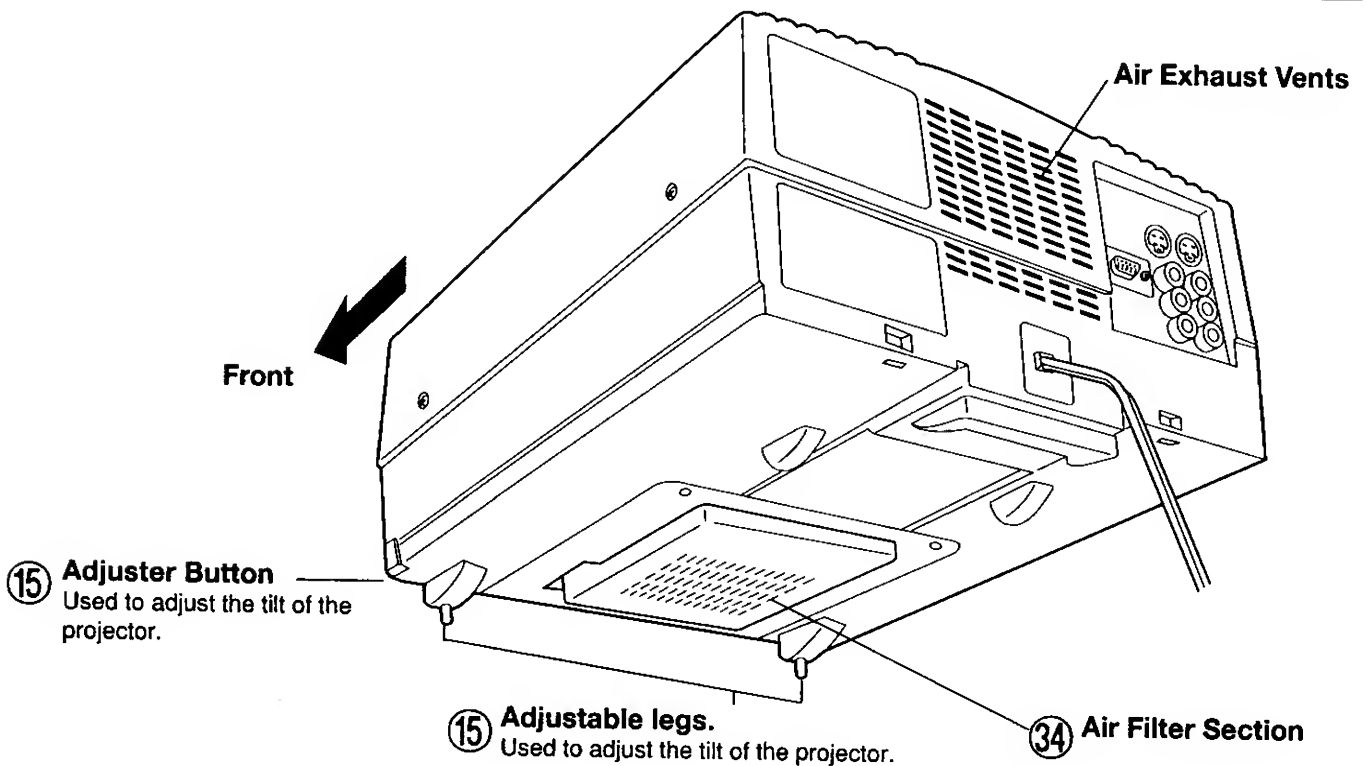
<Bottom and Back>

■ Caution

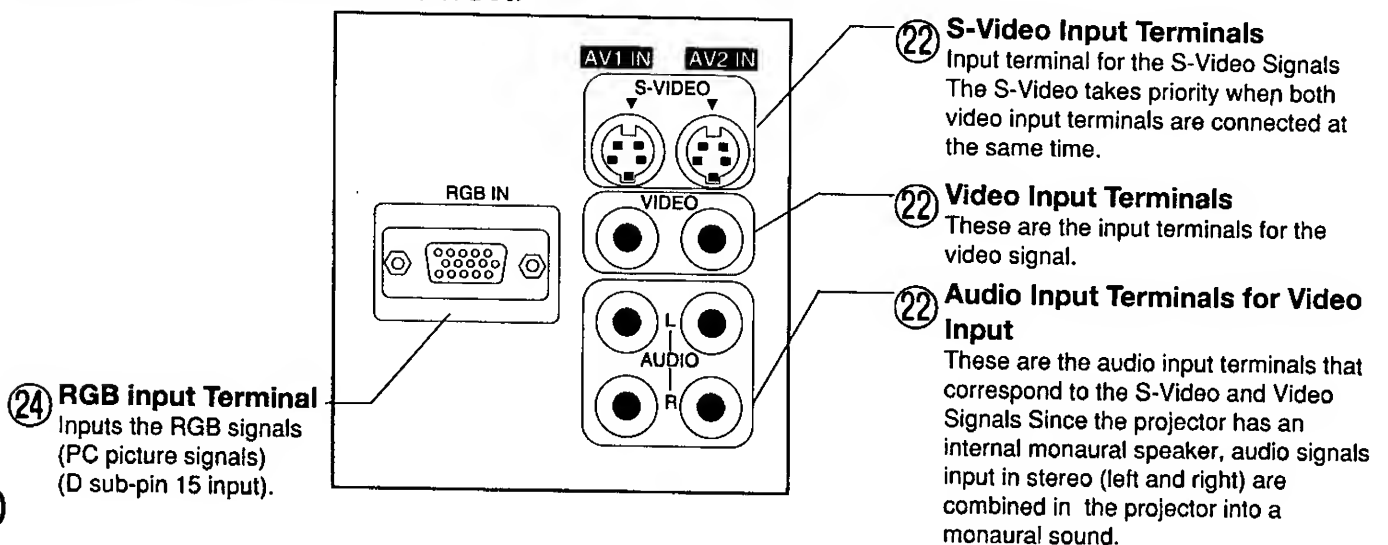
Be careful of hot air flowing out of the air exhaust vents.



Your hand or face might suffer from burns if you bring them near the ventilation holes. Objects placed near these holes are liable to be deformed.



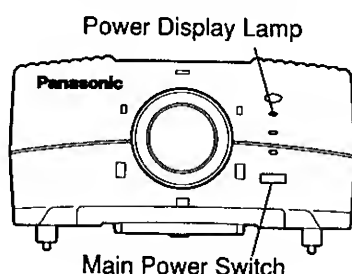
<Back Terminal Section>



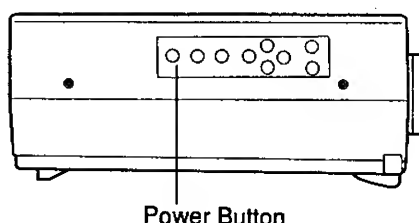
Turning the Power On and Off

Turning the main power switch off while the cooling fan is still running will reduce the life of the projection lamp. Always follow the following procedure when turning the power on and off.

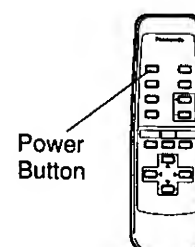
Front of Projector



Side Operating Panel on Projector



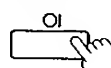


Remote Control





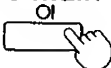
■Preparation

Plug the power cord into the wall socket.

■Turning On the Power

1	Turn on the Main Power (Projector) 	Turn on the Main Power Switch on the front of the projector. ↓ The Power Display Lamp will shine red, and the unit will switch to stand-by mode.
2	Turn on the Power (Projector)  OR (Remote Control) 	Press the Power button on the operation panel on the side of the projector, or press the Power button on the remote control. ↓ The Power Display Lamp will shine green, and an image will be projected onto the screen. (A few seconds will be required before the lamp achieves sufficient brightness).

■Turning off the Power

1	Turn Off the Power (Projector)  OR (Remote Control) 	Press the Power button on the operation panel on the side of the projector, or press the Power button on the remote control. ↓ Power display lamp will flash in green on and off.
2	Wait until the cooling fan turns Off.	Wait until the Power Lamp a red light on (approx. 120 seconds)
3	Turn off the Main Power. (Projector) 	Turn off the Main Power Switch on the front panel of the Projector. ↓ The power will turn off, and the Power Lamp will turn off after 6 seconds.

Note

- The cooling fan will continue to run even after the power is turned off, while the internal temperature of the projector remains hot (approximately 120 seconds). Please do not unplug the main power cord or turn off the main power switch while the cooling fan is still running.
- If you accidentally turn the power off during use, the images may not be projected even if you immediately turn the power back on. Wait until the projection lamp cools, and then turn the power back on.
- The lamp may not turn on immediately after the power is turned on. If this happens, the lamp will turn on again automatically after 30 seconds (during this time the Power Display Lamp's LED illuminates in green.) If the lamp does not light up again, the Power Display Lamp's LED flickers in green, and the Lamp Monitor Display's LED flickers in red, turn on the power after the lamp has cooled down sufficiently.
- The projector uses approximately 5 W of power even in standby state after the power has been turned off and the cooling fan has stopped.

Setting Up

■ Cautions During Set-Up

Please make sure to obey the following when setting up the projector.

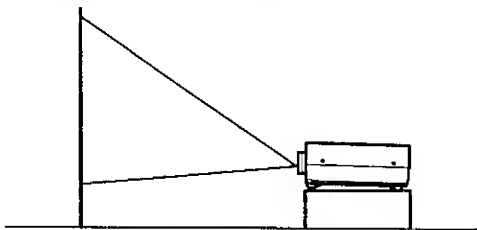
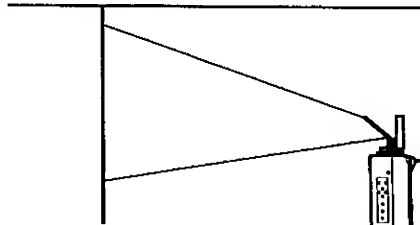
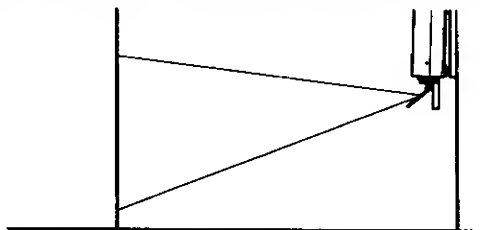
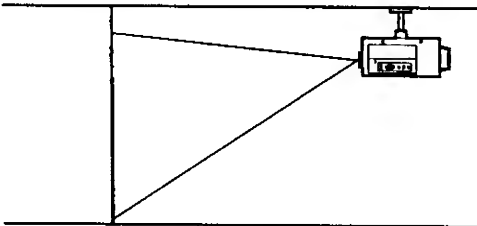
- **Please do not set up the projector in locations subject to vibration or shocks.**
Vibrations and shocks can damage the Projector and cause it to malfunction.
Please set up the projector in a location that is not exposed to vibrations or shocks.
- **Please do not set up the projector near high voltage wires or power sources.**
Setting the projector up near high voltage wires or power sources may cause interference with the operation of the projector.
- **Please do not set up the projector on top of a tablecloth or carpet.**
This may interfere with circulation to the air filter and cause the internal temperature of the projector to rise, which will cause the protection circuit to operate and cut off the power.
- **If you intend to mount the projector on the ceiling or a wall, please discuss this with the dealer from which you purchased the projector.**

■ Cautions During Use

- **To display the highest quality in images:**
Do not shine external light or illumination on the screen surface. This will prevent you from seeing high contrast and high quality images. Cover windows with curtains and blinds, and turn off fluorescent lamps near the screen surface. Moreover, flooring or walls that reflect lights should be covered by carpets or wallpaper.
- **Do not touch the projection lens or the reflecting surface on the mirror section with your bare hands.**
Fingerprints or dust on the projection lens surface will be magnified and projected on the screen. Therefore please do not touch the lens or mirror surface with your hand. If the projector is not being used, the lens should be covered with the lens cap, and the mirror unit section should be folded and stored.
*The lens cap cannot be put on with the mirror unit attached.
- **Do not hang on objects or a step-ladders on it.**
The unit may drop which may lead to injuries.

Setting Up

■ Please choose the installation that suits your room and your desired purposes.

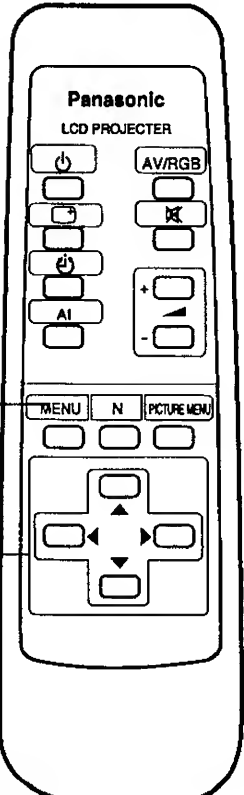
<p>1. Using a Table (see p. 15)</p> 	<p>2. Placement on the floor (see p. 14)</p>  <p>*Use the Mirror unit and setting stand.</p>
<p>3. Mounting on the wall (see p. 16)</p>  <p>*Use the mirror unit and setting stand.</p>	<p>4. Mounting from the Ceiling (see p. 17)</p> 

■ Please select the projection method that matches the installation.

(The default setting at shipment is for placement on the floor).

Preparation

Turn on the power, and use the AV/RGB switching button to select AV1, AV2 or RGB input.



- 1** Press the MENU Button
- 2** Use the ▲ or ▼ buttons to select the "SETTING" Menu.
- 3** Press the ◀ or ▶ buttons to select the "SETTING" Menu Screen.
- 4** Press the ▲ or ▼ buttons to select the appropriate Setting 1 through 4, that matches your installation.
- 5** Press the MENU Button twice to complete.

Example RGB Input

PICTURE
 SIGNAL MODE
 POSITION
 SETTING
 CLOCK
 FEATURES
 LANGUAGE

1
 SETTING 2
 3
 4

SETTING 1	For Use on a Table	Left and right reversed from Setting 2.
SETTING 2	Floor Placement	Default setting at shipment.
SETTING 3	Wall Mount	Left, right, top and bottom reversed from setting 2.
SETTING 4	Ceiling Mount	Top and bottom reversed from Setting 2.

Setting Up

(Please see page 18 concerning the projection distance and location for installing.)

■ Using when placed on the floor.

Preparation: Attach the mirror unit and the setting stand (see p. 8)

Place the projector on the floor, and use the mirror unit and setting stand to stand the projector upright.

Adjustments

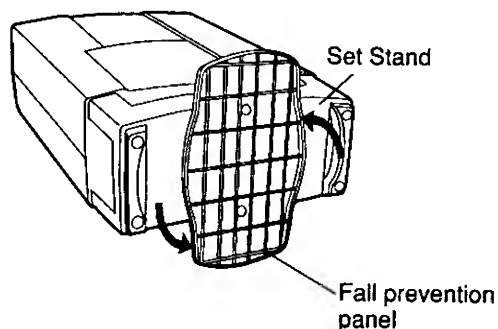
- 1** Grasp the centre of the Set Stand with your hands, and rotate 90 degrees as shown in the diagram at right, until the cover locks with a click.



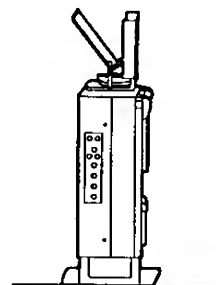
Caution:



In case of placement on floors, please use fall-prevention panel. Malfunctions or injuries are liable to be caused if the unit falls down.



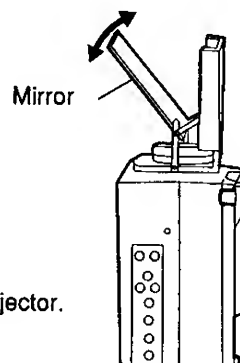
- 2** Stand the Projector on the Floor.



- 3** Adjust the mirror angle so that the picture shines on the centre of the screen.

Note

- Please refer to the measurements on page 18 when setting up the projector.



- 4** Setting the projection settings. Please see page 13 for details.

PICTURE
SIGNAL MODE
POSITION
SETTING
CLOCK
FEATURES
LANGUAGE



1
SETTING 2
3
4

Select "SETTING 2".

Setting Up

■ Placement on a table.

Preparation: Remove the mirror unit and the setting stand (see page 8)

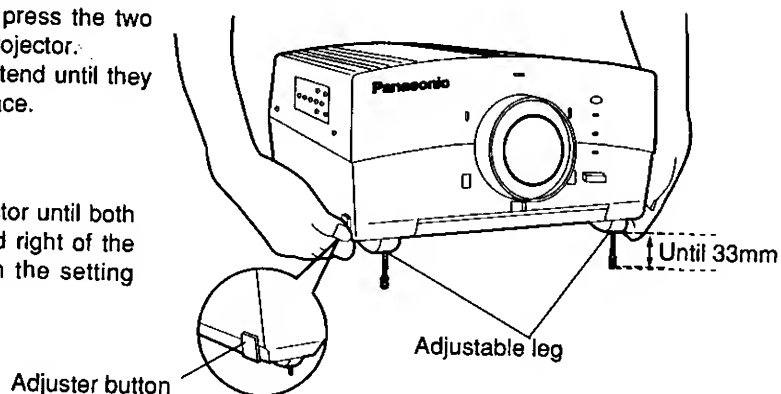
Unless the projector is placed flat, you will not be able to see clear images without distortion.
If you are placing the projector on a table, please make the following adjustments to make sure that the stand is not off balance.

Adjustments

- 1 Lift the front of the projector until it is flat. While holding the projector in this position, press the two adjuster buttons at the bottom of the projector. The setting legs (left and right) will extend until they come into contact with the setting surface.

Note

- Please do not let go of the projector until both of the setting legs on the left and right of the projector come into contact with the setting surface.



- 2 Letting go of the projector.
When you let go of the adjuster buttons, the adjusting function will be locked.

To Retract the Setting Legs.

Lift the projector slightly up and press on the adjuster buttons. While pressing these buttons, gently let the projector down.

Note

- Please do not press the adjuster buttons unless you are supporting the projector with your hands. Releasing the lock and letting the projector fall abruptly onto the stand may break the projector.

- 3 Setting the projection method. ... Please see page 13.

PICTURE
SIGNAL MODE
POSITION
SETTING
CLOCK
FEATURES
LANGUAGE



SETTING 1
2
3
4

Select "SETTING 1".

Setting Up

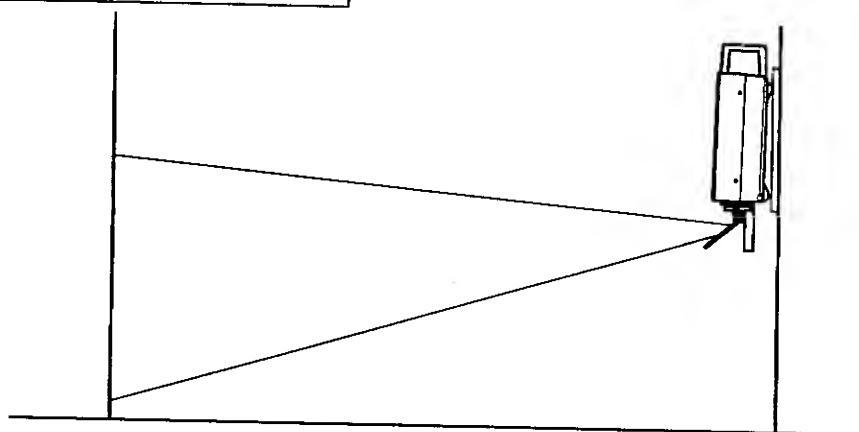
(Please see page 18 concerning the projection distance and location for installing.)

■ Mounting Projector on Wall

Preparation: Attach the mirror unit and setting stand (see page 8).

Please use the included fittings when mounting the projector on a wall.
Please follow the included Installation Manual for Wall mounting, and request a specialised wall mounting technician, to install the projector properly.

Example of mounting on wall.



- Selecting the Projection Setting ... Please see page 13 for details.

PICTURE
SIGNAL MODE
POSITION
SETTING
CLOCK
FEATURES
LANGUAGE



1
2
SETTING 3
4

Select "SETTING 3".

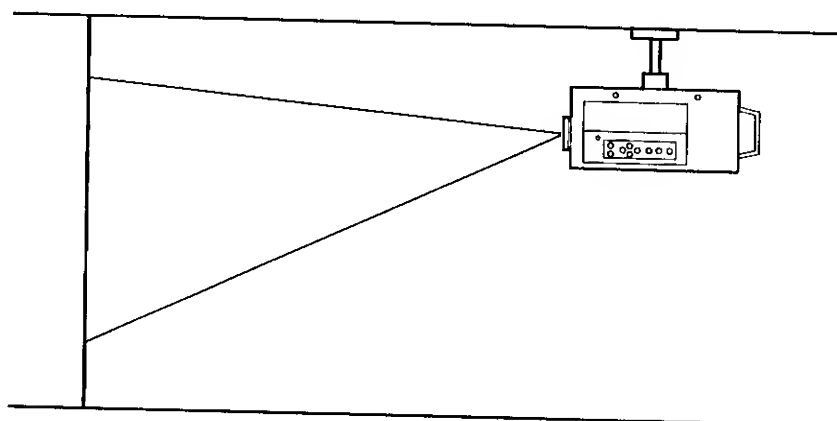
Setting Up

■ Mounting Projector on Ceiling

Preparation: Remove the mirror unit (see page 8).

The Ceiling Mount Kit TY-CE1 is required to mount the projector on the ceiling. Please discuss this with the dealer from which you purchased the projector.

Example of mounting on ceiling.



- Selecting the Projection Setting -- Please see page 13 for details.

PICTURE
SIGNAL MODE
POSITION
SETTING
CLOCK
FEATURES
LANGUAGE

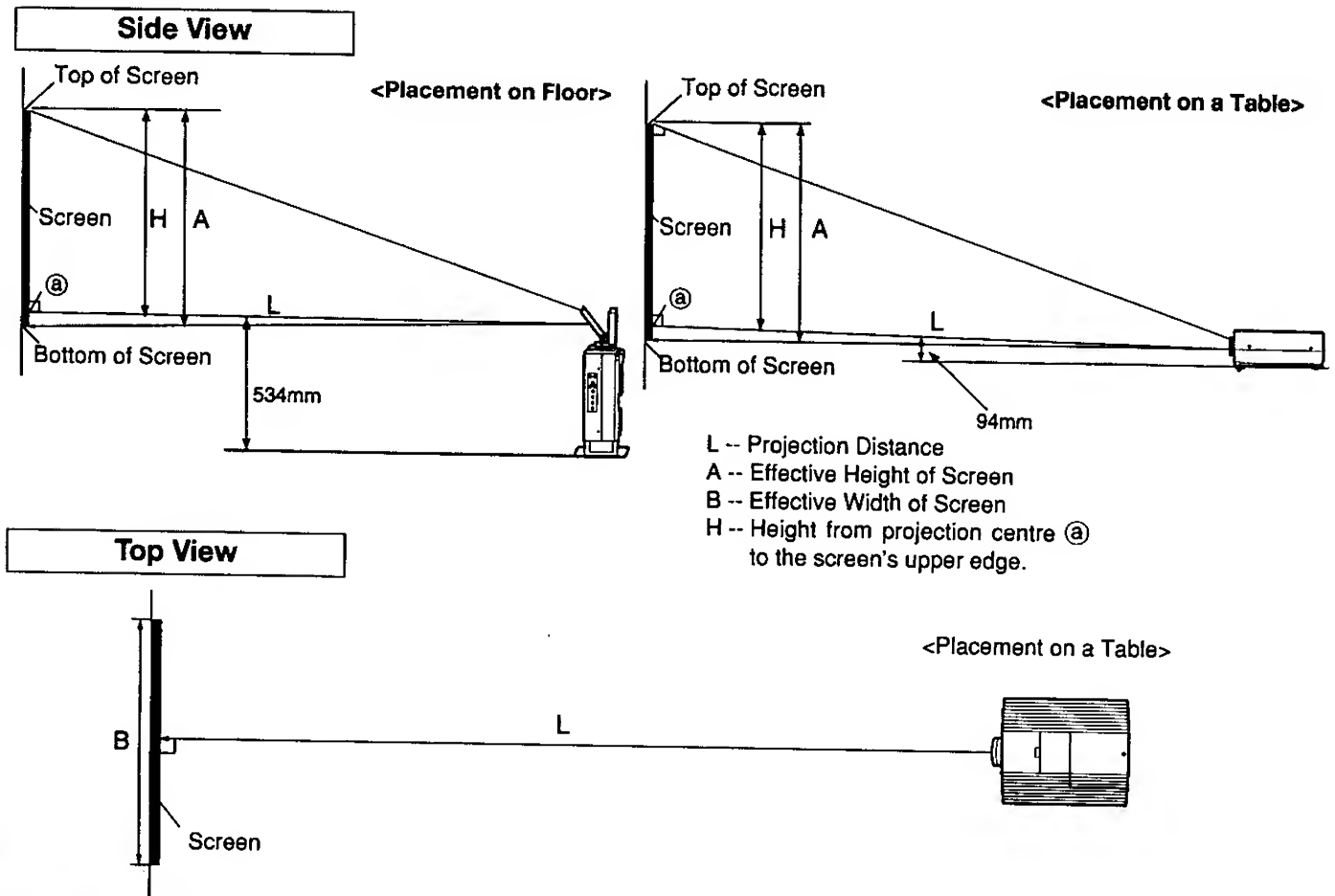


1
2
3
SETTING 4

Select "SETTING 4".

Projection Distance and Location for Installing

Please refer to the following diagrams to determine the projection location.



Note

- The projector must be perpendicular to the screen, and must be set flat. Otherwise you won't be able to view images that are not distorted.
- The minimum projection distance is 1.2 m. Please place the projector at least 1.2 m from the screen.
- The sizes of the images projected will differ slightly depending on whether the input is video or RGB. Please adjust using the zoom function.
- If the screen size is reduced slightly, the image will be brighter.

[During Video Input]

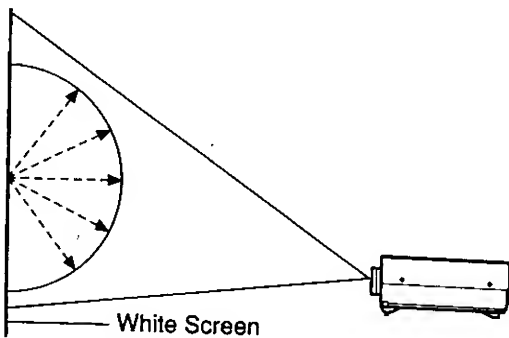
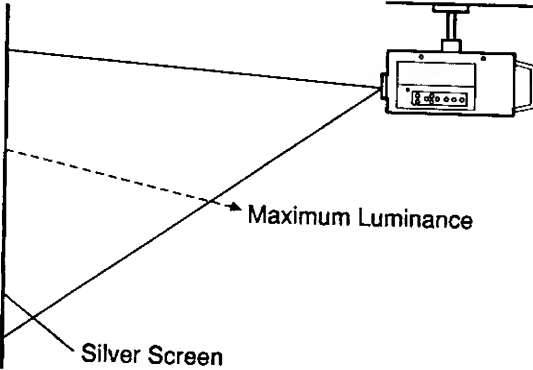
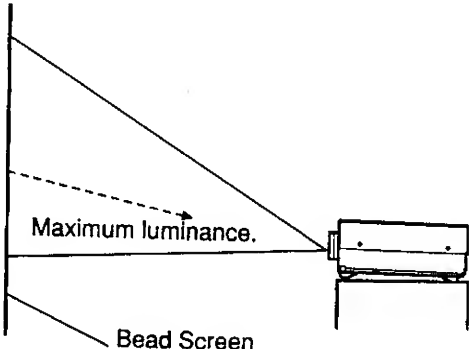
Projection screen size (Type)	Screen Size (mm)		Height from projection centre ① to the screen's upper edge. H (mm)	Projection Distance (L) (Screen surface ~ Lens surfce)	
	Effective Height (A)	Effective Width (B)		Shortest	Longest
40	610	813	Approx. 570	Approx. 1.6m	Approx. 2.2m
50	762	1016	Approx. 710	Approx. 2.1m	Approx. 2.7m
60	914	1219	Approx. 860	Approx. 2.5m	Approx. 3.3m
70	1067	1422	Approx. 1000	Approx. 2.9m	Approx. 3.9m
80	1219	1626	Approx. 1140	Approx. 3.3m	Approx. 4.5m
90	1372	1829	Approx. 1280	Approx. 3.7m	Approx. 5.1m
100	1524	2032	Approx. 1430	Approx. 4.1m	Approx. 5.6m
150	2286	3048	Approx. 2140	Approx. 6.2m	Approx. 8.5m
200	3048	4064	Approx. 2850	Approx. 8.3m	Approx. 9.0m

Selecting Screen

A screen is needed to view images from the projector. The brightness and viewing range may vary depending on the type of screen used.

When selecting a screen, please consider the features of the screen carefully, and select a screen that fits the location where the screen is to be used.

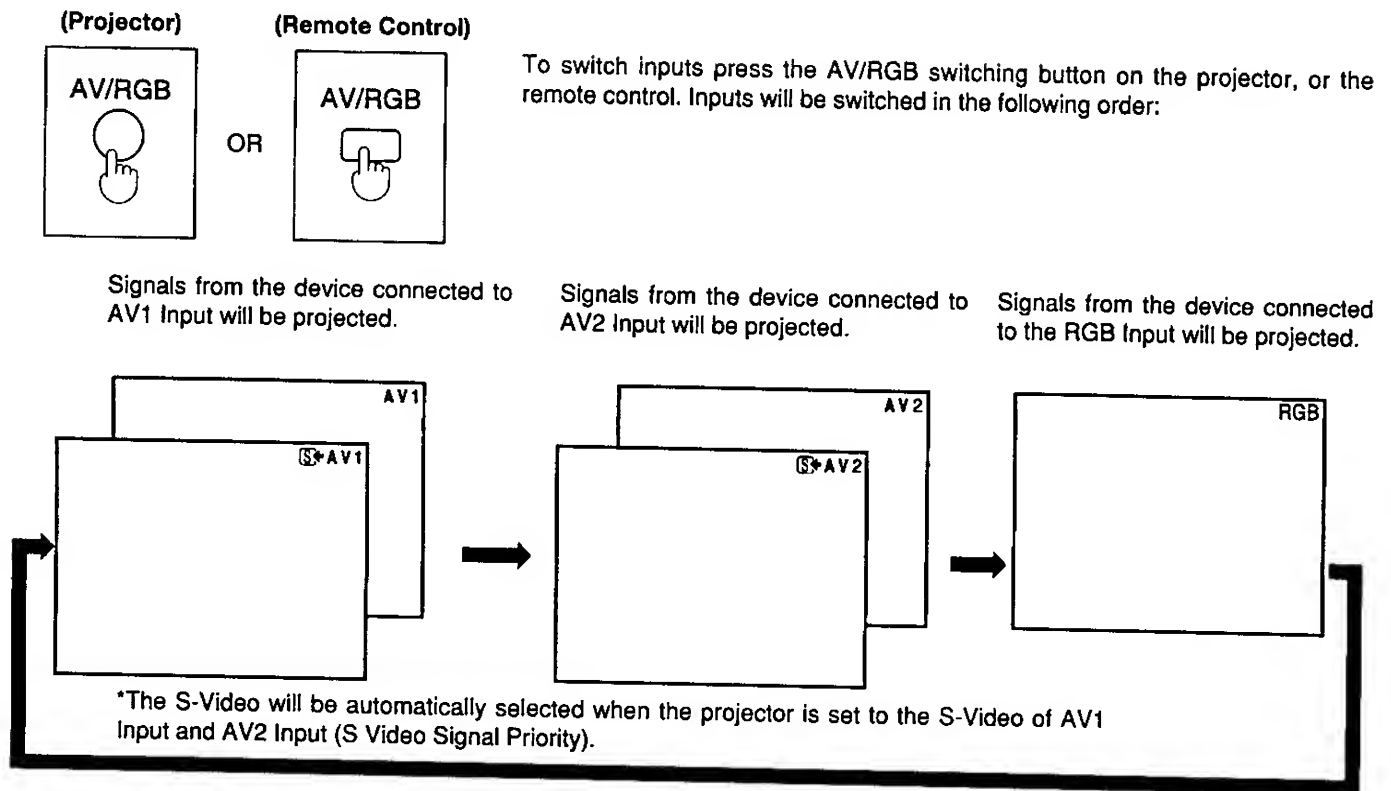
(Reference) Screen Features

Type of Screen		Screen Features
Reflection	White Screen	<p>Can be viewed from any direction within the viewable area. However, clear images cannot be seen unless the room is darkened like a movie theatre.</p>  <p>White Screen</p>
	Silver Screen	<p>Images are reflected off of the screen at 2-4 times the brightness of a white screen. Various screen manufacturers sell various types of screens, that offer differing brightness ranges. Some screens also restrict the viewing angles.</p> <p>*Well suited to ceiling or wall projection.</p>  <p>Maximum Luminance</p> <p>Silver Screen</p>
	Bead Screen	<p>Similar to a silver screen, except that images are reflected back in the same direction from which they were sent.</p> <p>*Well suited to projection when the projector is to be placed on a table stand or floor stand.</p>  <p>Maximum luminance.</p> <p>Bead Screen</p>

Note Type 80 and Type 100 bead screens are sold separately.
 Type 80 : TY-SC80S (with speakers)
 : TY-SC80N
 Type 100: TY-SC100N

Projecting With the Setting You Desire

■ AV/RGB Selection



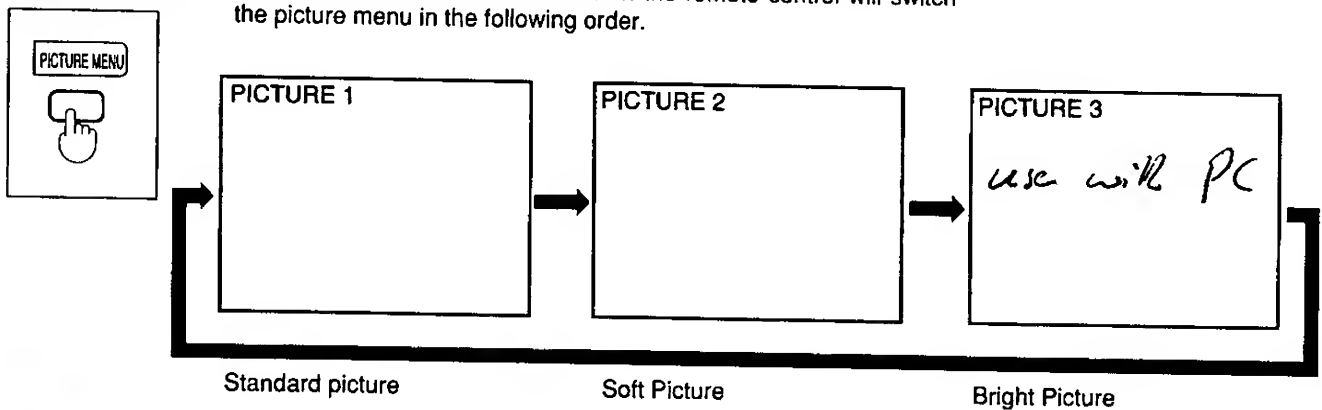
Note

- Please do not connect cables to the S-Video Input Terminal if you wish to project a video signal from the video input terminal.
- At the time of shipment, the default colour projection for Auto or RGB input is set to Auto. If the images are not being projected correctly, however, it may be necessary to change the setting to match the input signal. Please see p. 23 for selection of colour standard for the video input signal. Please p. 25 for selection of mode for the RGB input signal.

■ Using with the Picture Menu of Your

Remote Control

Pressing the Picture Menu Button on the remote control will switch the picture menu in the following order.



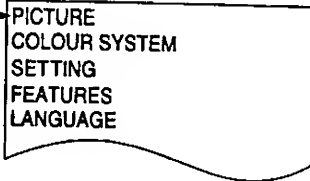
Note

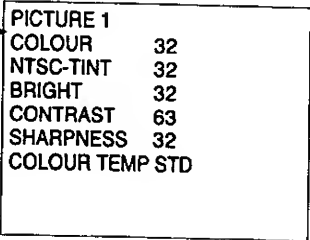
- The selected Picture Menu will be memorized for each input switching.
- The contents of the Picture Menu (colour, contrast, etc.) let you make the desired changes. (See page 21.)

Adjusting the Picture to Your Preference

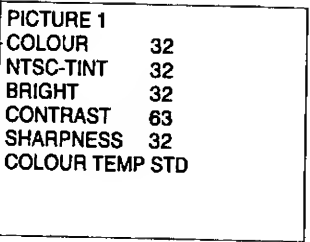
The picture can be adjusted to your preference for each AV/RGB setting selected for the projector using the method discussed on p. 20 (adjustments will be stored for each of Pictures 1 through 3). The options that can be selected will differ between the Video (S-Video) signal and the RGB signal. The adjustment procedures presented below are explained on the screen when inputting the Video (S-Video) signals.

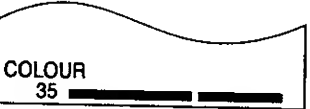
- 1** Press the MENU Button.
Select the "PICTURE" menu with the ▲ and ▼ buttons.
Set with the ◀ and ▶ buttons.


- 2** Press the remote control "PICTURE MENU" button, and select the picture menu you want to adjust.



• Press the "N" button to return to the normalisation setting.
- 3** Select the "COLOUR" with the ◀ and ▶ buttons.


- 4** Press the ◀ and ▶ buttons to adjust.


- 5** Press the "MENU" Button twice to complete (screen returns to the normal viewing condition).

• The buttons you press and the adjustments made will differ depending on the adjustment setting. Please refer to the following table.

Adjustment Item	Button	Adjustment	Extent of Adjustment	Remarks
COLOUR	▶	Increases the Colour	Maximum Value 63	Only operational during video signal input (including S-Video).
	◀	Lightens the Colour	Minimum Value 0	
NTSC-TINT	▶	Adds a Green Tint to Flesh Tones	Maximum Value 63	Only operational during NTSC3.58/NTSC 4.43 video signal input (including S-Video).
	◀	Adds a Purplish Red Tint to Flesh Tones	Minimum Value 0	
BRIGHT	▶	Brightens the picture	Maximum Value 63	
	◀	Makes the picture darker	Minimum Value 0	
CONTRAST	▶	Makes the screen brighter and the picture darker	Maximum Value 63	
	◀	Makes the screen darker and the picture brighter	Minimum Value 0	
SHARPNESS	▶	Increases the sharpness of the picture quality	Maximum Value 63	Only operational during video signal input (including S-Video).
	◀	Makes the picture quality softer	Minimum Value 0	
COLOUR TEMP	◀▶	STD --Standard Warm--Adds a reddish hue to the screen. Cool--Adds a bluish hue to the screen.		

Note

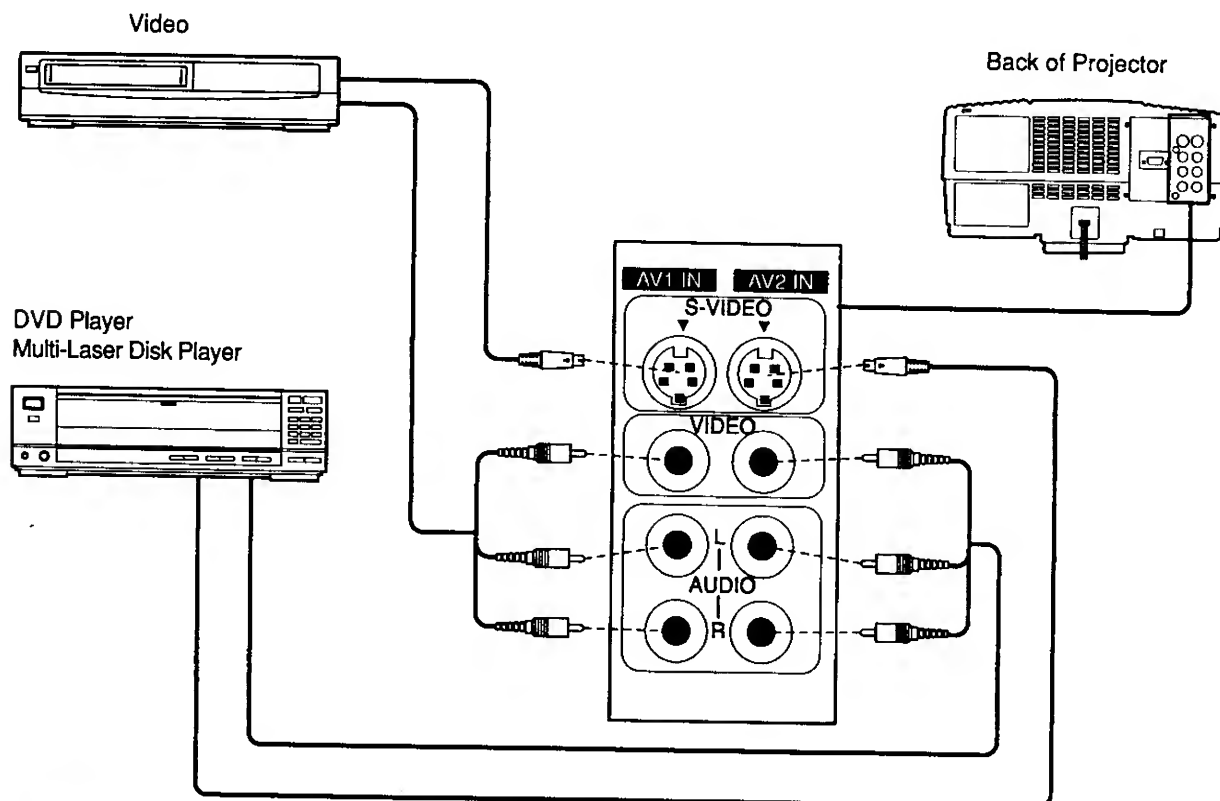
- Press the "MENU" Button to close the Adjustment Screen or Main Menu Screen.
- NTSC tint can not be adjusted for the colour systems SECAM and PAL.
- The selected colour temperature can be stored in the memory, however, it would be the same even if the input is switched over.

System Examples

Remarks on System Installation

- Please read the User Manuals carefully for any equipment you intend to connect to the Projector.
- Make sure that the power is off for each piece of equipment before connecting any cables.
- If the included cables cannot be attached because of the location in which the projector is installed, please use commercially sold cables that match the equipment to be connected.
- The signals that can be connected to the projector are video signals, S-Video Signals and Analog RGB Signals (with synchronous signals of 0.6 - 8.0 Vp-p).
- The projector has one 1 W internal speaker. A separate audio system would be required to output high volumes, or to enjoy stereo sound (please connect each device directly to the audio system).
- Some computer models cannot be connected to the Projector.

■ Connecting to AV Equipment



Note

- The S-Video In terminal will have priority when cables are connected to both the S-Video In and the Video In terminals. Please do not connect a cable to the S-Video In if you wish to project video signals.
- If the video signal is to be connected using a BNC plug cable, please use a (commercially sold) BNC-Pin Adapter if you wish to convert to a pin jack.
- The left audio and the right audio for the Video Input are combined within the Projector into monaural audio.

System Examples

Selecting the Colour System for Video (S-Video) Input

Please use the following procedure to select the Colour System if the signal does not match and a normal picture is not projected when selecting AV1 or AV2 during input switching. Normally the Projector can be used as is without this setting, since at the time of shipment the Projector is set to Auto.

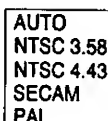
Setting Procedure (Either the Remote Control or the Projector can be used to set the Colour System)

- 1 Press the MENU Button, and use the ▲ and ▼ buttons to select the "COLOUR SYSTEM" menu. Then use the ◀ and ▶ buttons to execute.



PICTURE
COLOUR SYSTEM
SETTING
FEATURES
LANGUAGE

- 2 Use the ▲ and ▼ buttons to select the Colour System that will yield the proper image.



AUTO
NTSC 3.58
NTSC 4.43
SECAM
PAL

- 3 Press the MENU Button twice to complete.

Note

- NTSC3.58, NTSC4.43, SECAM and PAL are television broadcast system. This Projector can project video signals that correspond to these system.
- In some cases images will not be properly displayed under the Auto setting, if the picture is poor, including dubbing tapes. Switching the Colour System is an effective measure to take in these instances.

■ Adjusting the Volume

Use the volume adjustment buttons (-/+) to adjust the volume during video input.

Press + to increase the volume.

Press - to decrease the volume.

Note

- Even if another screen is being displayed, these buttons will operate when pressed, although the adjustment level will not be displayed.
- The buttons will not operate during RGB signal input.



VOLUME
35

■ Turning Off the Volume

Pressing the Mute button "⏏" during video input will cause the sound to turn off and the Mute indication to be displayed as shown right.

Press the Mute button again to turn off the Mute indication. The sound will return at its prior volume, and the volume level will be indicated for approximately 3 seconds.

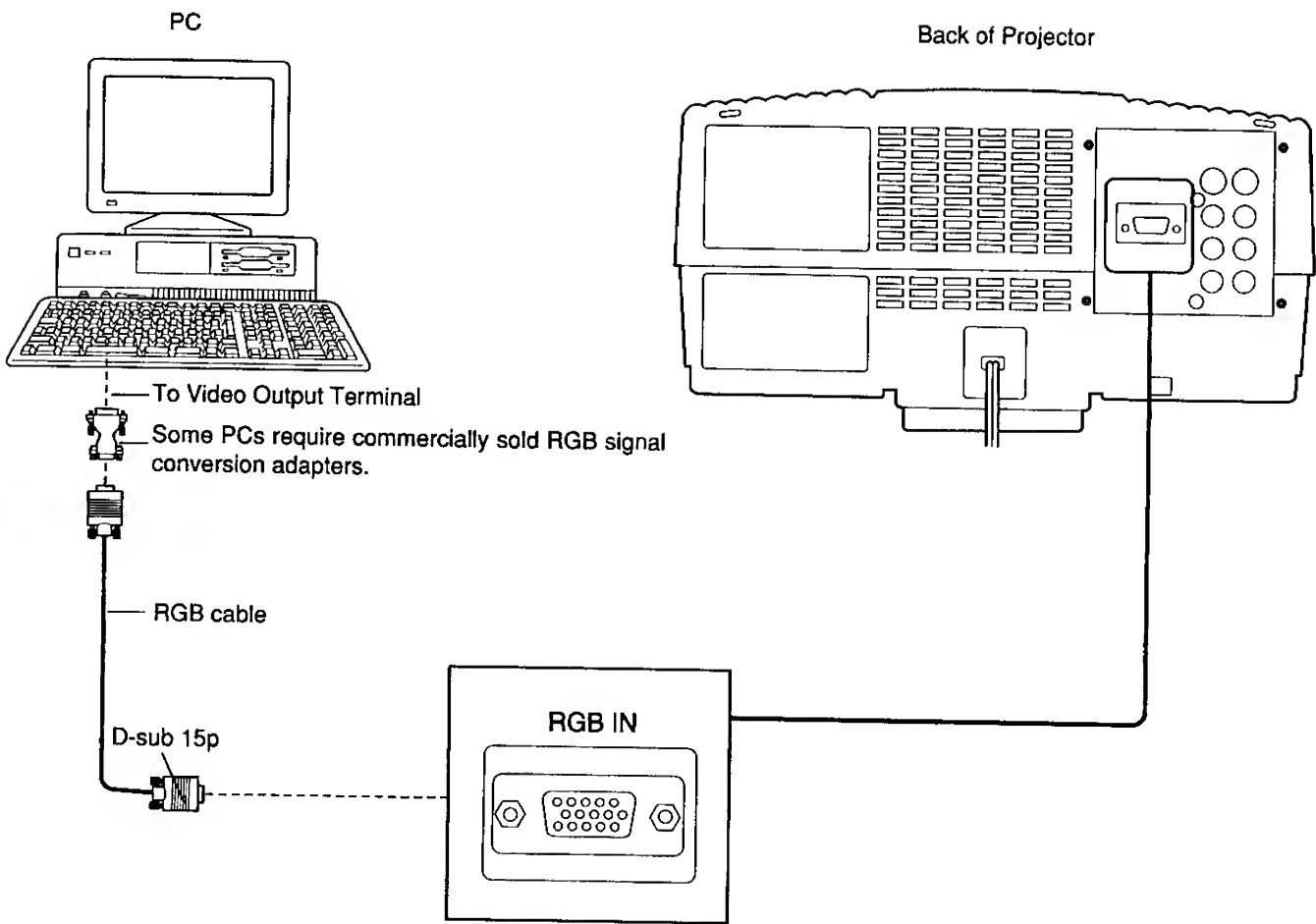
Note

- Even if another screen is being displayed, the Mute button will operate when pressed, although the Mute indication will not be displayed.
- The settings will be cancelled by turning off the power, or by pressing the volume "+" button.
- The Mute button will not operate during RGB signal input.



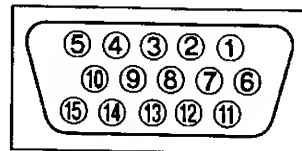
System Examples

■ Connecting to PCs



Note

- Please refer to the data presented on page 25 concerning PCs that can be connected to the Projector. In some cases other PCs may not work with this projector.
 - There is no audio signal in RGB input.
 - Some PC models cannot be connected to the Projector.
 - A commercially sold adapter is required to use the included RGB cable (D-sub 15P) to connect a PC-98 series computer (which has a D-sub 15P terminal) or a Macintosh computer to the projector.
- There is no need to use an adapter for computers with DOS/V compatible D-sub 15P terminal.



Pin Layout for RGB Input Terminal

■ Signal Names for D-sub 15 Connector

Pin No.	Signal Name	Pin No.	Signal Name	Pin No.	Signal Name
①	R	⑥	GND (Ground)	⑪	GND (Ground)
②	G	⑦	GND (Ground)	⑫	NC
③	B	⑧	GND (Ground)	⑬	HD/SYNC
④	GND (Ground)	⑨	NC (not connected)	⑭	VD
⑤	GND (Ground)	⑩	GND (Ground)	⑮	NC (not connected)

System Examples

Selecting the Signal Mode for RGB Signal Input

The Projector is set to Auto, which will automatically select the Signal Mode that matches or is closest to the input signal, in the data that is loaded into the Projector prior to shipment. Please use the following procedure, however, if pictures are not projected properly. If signals are input that are substantially different from the frequency registered, pictures will not be properly displayed, or a blue back (or no signal) screen will be displayed.

Selection Procedure (Selection is Possible Using Either the Remote Control or the Buttons on the Projector)

- 1 Press the MENU Button.
Use the ▲ and ▼ buttons to select the "SIGNAL MODE" Menu.
Then use the ◀ and ▶ buttons to execute.

PICTURE
SIGNAL MODE
POSITION
SETTING
CLOCK
FEATURES
LANGUAGE

- 2 Use the ▲ and ▼ buttons to select the "SIGNAL MODE" that will yield the proper image.

AUTO
640X400 : 70Hz
640X480 : 60Hz
640X480 : 75Hz
800X600 : 56Hz
800X600 : 60Hz
800X600 : 75Hz
[MAC 13"] : 67Hz
[MAC 16"] : 75Hz
PC9801 : 56Hz

- 3 Press the MENU Button twice to complete.

Note

- During the selection of the Signal Mode, in some cases it may be displaced outside the screen domain, and viewing would not be possible. When confirming the present Signal Mode, or troubles are encountered during operations, you may either unplug the RGB cable, or shut down the computer, and carry out the procedure from step ❶ to return to the first display.

Table of Compatible PC Signals

Display Mode	Signal Data			Remarks
	Pixels	Horizontal Scanning Frequency (kHz)	Vertical Scanning Frequency (Hz)	
AUTO	Selection is made automatically from the following recorded modes.			
640X400 : 70Hz	640X400	31.5	70.1	
640X480 : 60Hz	640X480	31.5	59.9	
640X480 : 75Hz	640X480	37.5	75.0	
800X600 : 56Hz	800X600	35.2	56.3	Converted and Displayed at 640X480
800X600 : 60Hz	800X600	37.9	60.3	
800X600 : 75Hz	800X600	46.9	75.0	
[MAC 13"] : 67Hz	640X480	35.0	66.7	
[MAC 16"] : 75Hz	832X624	49.7	74.6	Converted and Displayed at 640X468
PC9801 : 56Hz	640X400	24.8	56.4	

Note

- The pixel value for the Projector is 640X480 (meets requirements up through VGA). Signals of more than 640X480 (S-VGA), (MAC 16) are converted to 640X480 and displayed, which causes some deterioration in picture quality.

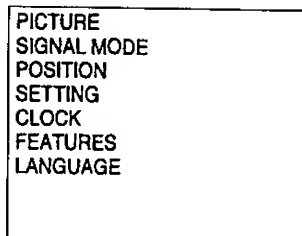
Adjustments for RGB Input Screen

■ Adjusting the Screen Position

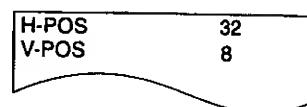
The position of the screen can be shifted left, right, up or down if the RGB input image projected on the screen is off centre, even though the Projector and screen have been set up in the proper relative positions. (This is available only during RGB input.)

Adjustment Procedure <Adjusting the Horizontal Position (Left and Right)>

- 1 Press the MENU Button.
Use the ▲ and ▼ buttons to select the "POSITION" menu.
Then use the ◀ and ▶ buttons to execute.



- 2 Use the ▲ and ▼ buttons to select H (Horizontal) - Pos.
(To adjust the vertical position, select V (Vertical) - Pos.)
While looking at the screen, use the ◀ and ▶ buttons to adjust the position.



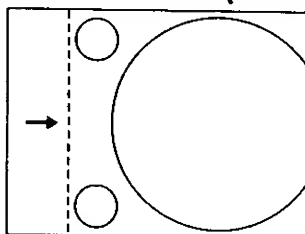
- Press the "N" button to return to the normalisation setting.



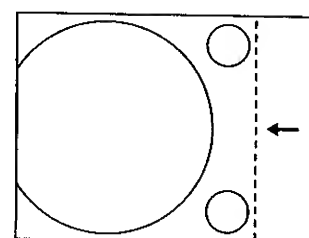
- 3 Press the MENU Button twice to complete.

<Adjusting the Horizontal Position (Shift Left or Right)>

Press the ▶ button to shift the image right.

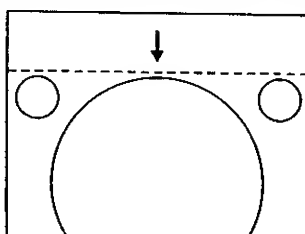


Press the ◀ button to shift the image left.

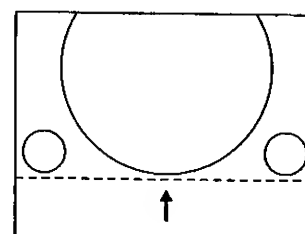


<Adjusting the Vertical Position (Shift Up or Down)>

Press the ▶ button to lower the image down.



Press the ◀ button to shift the image up.



Note

- The V-Pos cannot be changed if the display mode for the Signal Mode is 640X400 : 70 Hz, 800X600 : 56Hz, 800X600 : 60 Hz, 800X600 : 75 Hz, or PC9801 : 56 Hz.

Adjustments for RGB Input Screen

■ Adjusting the Dot Clock

Fine adjustment and clock phase adjustment of the dot clock frequency is possible during RGB signal input. Please follow the following procedure to adjust, while looking at the screen.

Adjusting the Clock Phases

By adjusting the phases you can remove screen flickers and blurred contours that result from computer images using RGB signal inputs.

Adjustment Procedure

- 1 Press the MENU Button.
Use the ▲ and ▼ buttons to select "CLOCK" Menu.
Then use the ◀ and ▶ buttons to execute.

PICTURE
SIGNAL MODE
POSITION
SETTING
CLOCK
FEATURES
LANGUAGE

- 2 Use the ▲ and ▼ buttons to select "CLOCK PHASE".
Use the ◀ and ▶ buttons to adjust.

CLOCK PHASE 32
DOT CLOCK ADJUST 32

- Press the "N" button to return to the normalisation setting.

- 3 Press the MENU Button twice to complete.

CLOCK PHASE
35

Fine Adjustment of Dot Clock Frequency

The Projector allows adjustment of the area of picture display at the time of RGB Signal Input.

Adjustment Procedure

- 1 Press the MENU Button.
Use the ▲ and ▼ buttons to select the "CLOCK" Menu.
Then use the ◀ and ▶ buttons to execute.

PICTURE
SIGNAL MODE
POSITION
SETTING
CLOCK
FEATURES
LANGUAGE

- 2 Use the ▲ and ▼ buttons to select "DOT CLOCK ADJUST".
Use the ◀ and ▶ buttons to adjust.

CLOCK PHASE 32
DOT CLOCK ADJUST 32

- Press the "N" button to return to the normalisation setting.

- 3 Press the MENU Button twice to complete.

DOT CLOCK ADJUST
35

Note

- In some cases the picture will not display normally if the Dot Clock Frequency is substantially out of adjustment.

Convenient Options for Use

■ Changing Screen Display Language.

Data for 7 languages is stored in the Projector. Use the following procedure to display the language of your choice.

Setting Procedure To Switch to Chinese (中文) (Example: When using AV1 and AV2)

- 1 Press the MENU Button.
Use the ▲ and ▼ buttons to select the "LANGUAGE" Menu.
Then use the ◀ and ▶ buttons to execute.

PICTURE
COLOUR SYSTEM
SETTING
FEATURES
LANGUAGE

- 2 Use the ▲ and ▼ buttons to select Chinese "中文".

ENGLISH
日本語
中文
FRANÇAIS
ESPAÑOL
DEUTSCH
ITALIANO

- 3 Press the MENU Button twice to complete.

■ Using the Noise Timer Feature

The projector offers a Noise Timer feature, which automatically switches the projector into standby mode to save energy if the projector is left for 5 minutes or more without any signal being input. At the time of shipment this feature is turned Off. Please follow the following procedure to turn the Noise Timer On, if you wish to use this feature.

Setting Procedure (Example : When Using AV1 and AV2)

- 1 Press the MENU Button
Use the ▲ and ▼ buttons to select the "FEATURES" Menu.
Then use the ◀ and ▶ buttons to execute.

PICTURE
COLOUR SYSTEM
SETTING
FEATURES
LANGUAGE

- 2 Use the ▲ and ▼ buttons to select "NOISE TIMER".
Then use the ◀ and ▶ buttons to switch the Noise Timer off or on.
(Set to On to operate the Noise Timer)

BLUE BACK OFF
P-DE OFF
NOISE TIMER ON

- 3 Press the MENU Button twice to complete.

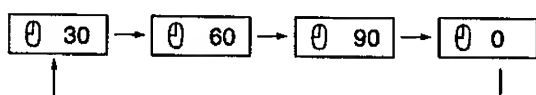
Note

- Settings of the NOISE TIMER would be stored in the memory even when it turns off the power.
- If the Noise Timer feature is operating, a flashing light will appear at the bottom right hand corner of the screen when less than 3 minutes are left.
- When the OFF TIMER has already been set, it will have the priority.

■ Using the Off Timer Feature

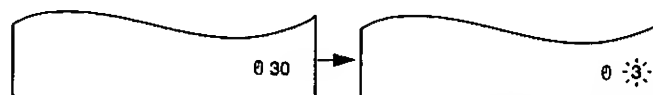
Setting

- The time setting will change each time you press the "⏻" button on the Remote Control.



Example: Set for 30 Minutes

When the remaining time falls to 3 minutes.



The Timed Off feature will be turned off when the setting is set to "0".

Display flashes on and off.

Note

- If you wish to know how much time is remaining, press the Off Timer button once, or confirm by pressing the Recall button.

Convenient Options for Use

■ Setting the Screen Colour to Blue When There is no Signal.

This sets the screen colour to blue when no devices are attached to any of the input terminals to the Projector, or when no signals are being input from any of the connected devices.

Setting Procedure (Example: When using AV1 and AV2)

- 1** Press the MENU Button
Use the ▲ and ▼ buttons to select "FEATURES" Menu.
Then use the ◀ and ▶ buttons to execute.
- 2** Use the ▲ and ▼ buttons to select "BLUE BACK".
Then use the ◀ and ▶ buttons to switch the Blue Back off or on.
- 3** Press the MENU Button twice to complete.

PICTURE
COLOUR SYSTEM
SETTING
FEATURES
LANGUAGE

BLUE BACK ON
P-DE OFF
NOISE TIMER OFF

Note • Unrecognisable signals input are treated as no signal being input.

■ Adjusting P . DE (Picture Detail Enhancer)

Adjusting the picture clarity to your preference during Video Input.

Setting Procedure

- 1** Press the MENU Button
Use the ▲ and ▼ buttons to select "FEATURES" Menu.
Then use the ◀ and ▶ buttons to execute.
- 2** Use the ▲ and ▼ buttons to select "P-DE".
Then use the ◀ and ▶ buttons to switch the P- DE on or off.
On.....increases clarity
Off.....reduces roughness.


PICTURE
COLOUR SYSTEM
SETTING
FEATURES
LANGUAGE

BLUE BACK OFF
P-DE ON
NOISE TIMER OFF

■ Auto Adjustment of Picture AI (Artificial Intelligence)

During video input, this feature automatically uses the optimum staged compensation at all times for the picture being viewed, to provide a clear picture with a comfortable contrast.

Setting Procedure

- Press  button on the remote control (the display will switch between On and Off each time you press the button).

AI On -- Bright and clear contrast. The picture colours are reproduced with high clarity.
AI Off -- Normal picture. The AI feature is not used.

Note • AI On and Off settings are recorded for each picture menu (Pictures 1 through 3).

Cleaning and Proper Use

■ Cleaning ... Always unplug the power cord from the socket before cleaning.

Wipe gently with a soft cloth to clean.

If the Projector is heavily soiled, moisten the cloth with a neutral cleanser diluted in water, and wring out the cloth before using. Then wipe dry with a dry cloth.



Do not use insecticide, benzene, paint thinner or explosive substances.

This will cause damage to the case or strip off the paint. Also do not place in contact with rubber or vinyl products for an extended period (this can cause damage to the case).



Do not apply cleaning fluid directly to the Projector.

Droplets falling inside the cabinet can cause the Projector to break down.

Do not wipe the lens surface or the mirror surface with a nappy cloth or a cloth that has dust.

Foreign matter or dust on the lens surface will be magnified and projected onto the screen.

Wipe clean with the polishing cloth included with the projector, or a soft clean cloth.

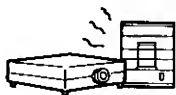
Note

Before using chemically treated cloth, make sure to read the accompanied cautions.

■ Care When Setting Up the Projector

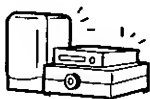
Avoid direct sunlight and keep away from heating equipment.

This can warp the case and cause the Projector to break down.



Be Careful of Interference Between Equipment

To avoid warping from weight and electromagnetic interference that can distort images and sound.



Turn the power Off when connecting

Follow the user manuals when connecting devices. (including audio equipment, video equipment, game machines, video disk equipment, speaker boxes and PCs).

Leave space around the Projector

- Air circulation will reduce the amount of dust adhering to walls and other surfaces.
- Use the designated units when mounting on a wall or the ceiling.

■ Cautions for Use

Do not Short Circuit the Interval Between Opposing Poles of the Batteries (Interval Between (+) Pole and (-) Pole).

This can cause the batteries to become unusable.

If Battery Leakage Occurs (for the Remote Control Batteries)

Wipe the battery case fully with a cloth if leaking occurs, and replace the battery. If any part of your body comes into contact with the leaking fluid, wash these areas fully with water.

Replacing the Lamp Unit



Caution

- **Make sure that the lamp is fully cooled before replacing the lamp unit.**



After using the projector the lamp will be very hot. Touching it can cause burns, and objects placed in contact with the lamp may be deformed or damaged by the heat.

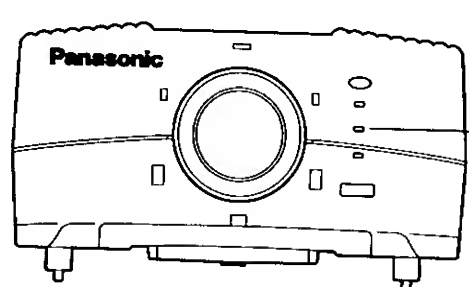
■ When to Replace the Lamp

The lamp monitor will shine red when the Lamp Unit has been used for 7000 hours.

Please replace the lamp when the lamp monitor turns on, since the lamp will become darker or burn out with the expiration of time.

*The expected life is 7000 hours. Depending on the conditions of use, the lamp may need to be changed before this time elapses.

Lamp Monitor Display



Please Observe the Following When Changing the Lamp

- The optical lamp is a glass product. It may shatter if struck by hard objects or if dropped. Please be careful when handling the lamp.
- The old lamp unit removed may shatter if handled roughly.
- A "+" screwdriver must be used when replacing the lamp unit. Please be careful that your hand does not slip when using the screwdriver.
- Follow the instructions on the following page when replacing the lamp unit, and please turn off the Lamp Monitor Display.

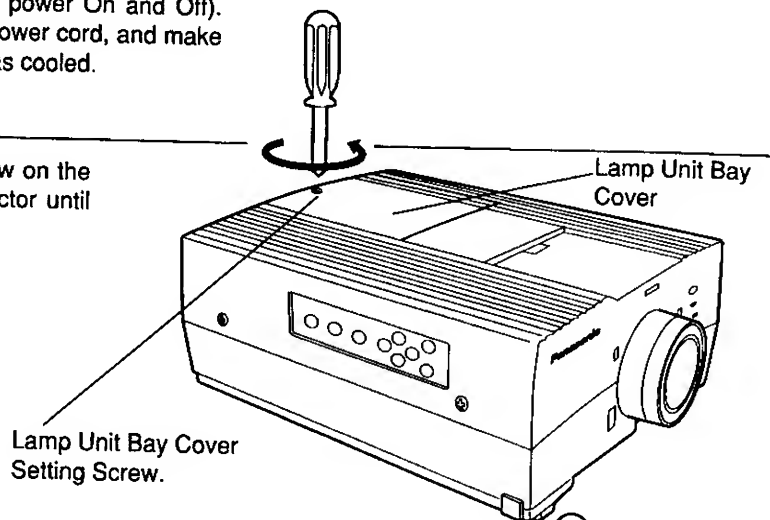
Note

- Lamp Units are sold separately. Please inquire with the dealer from whom you purchased the Projector.
Lamp Unit Spare Part No : TXZVL010N05

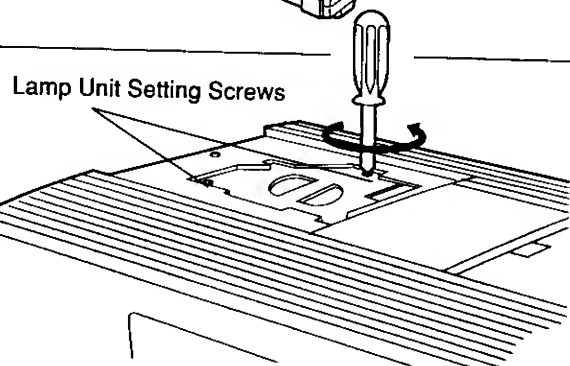
Replacing the Lamp Unit

- 1 Follow the instructions on p. 11 (turning the power On and Off). After turning off the main power, unplug the power cord, and make sure that the surface around the Lamp Unit has cooled.

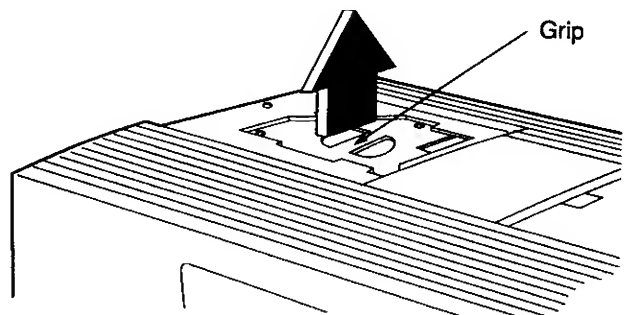
- 2 Use a "+" screwdriver to turn the setting screw on the Lamp Unit bay cover on the top of the projector until the screw turns loosely and take off the cover.



- 3 Unscrew the Lamp Unit's setting screws (2 pcs.) with a "+" screwdriver until the screws turn loosely.



- 4 Grasp the grip on the Lamp Unit, and slowly lift the Lamp Unit out of the projector.



- 5 Lower the new Lamp Unit into the Projector, taking care that you are pressing in the right direction. Then tighten the Lamp Unit setting screws firmly in place.

- 6 Reattach the Lamp Unit bay cover, and use a "+" screwdriver to tighten the setting screw for the bay cover firmly.

Note

- Please attach the Lamp Unit and the Lamp Unit Bay Cover firmly in place. If the Lamp Unit or the Lamp Unit Bay Cover are not firmly attached, the protective circuit will be activated, preventing the power from turning on.

Replacing the Lamp Unit

7

Insert the power plug into the socket, and turn on the Main Power on the front panel of the Projector.

Note

- If the power does not turn on even though the Main Power switch has been turned on, turn the Main Power back off, and confirm that the Lamp Unit and the Lamp Unit Bay Cover are firmly in place. Then turn the power back on.

8


Press the power button on the operating panel on the side of the Projector, or on the remote control, and begin picture projection.

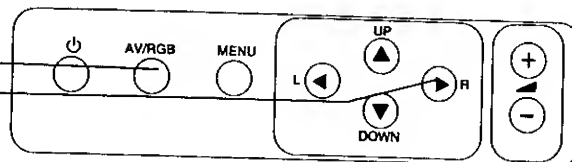
9

To Turn Off Lamp Monitor Display

Operating Panel on the Side of the Projector

Projector Operating Panel

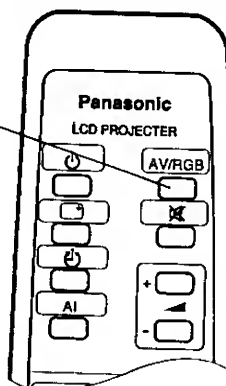
- 1 AV/RGB Switching Button
- 2  (right) button for selecting options.



Remote Control

Remote Control

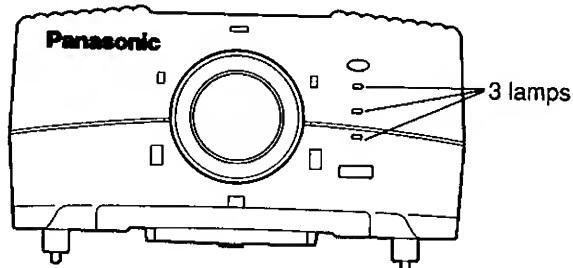
- 1 AV/RGB Switching Button on the Remote Control



Press the above three buttons at the same time.



The 3 lamps on the Projector will flash on and off for 5 seconds, after which the Lamp Monitor Display will turn off, completing the replacement procedure.



Cleaning and Replacing the Air Filter

Dust build-up in the air filter will raise the internal temperature of the Projector, whereupon the Temperature Monitor will flash on and off and the power will be turned off. Please clean the air filter without fail if the Temperature Monitor flashes on and off. Cleaning the Air Filter is indicated approximately every 100 hours of use, although requirements will differ depending on the location in which the Projector is used.

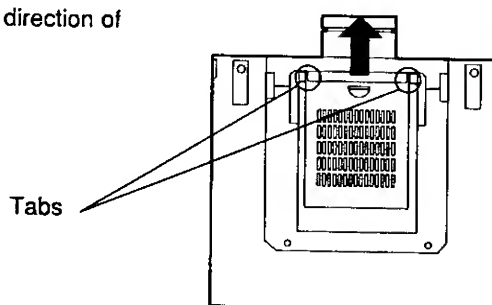
■ Cleaning the Air Filter

Preparation

Turn off the Main Power on the Projector, and unplug the power cord.
Please be sure to follow the instructions on page 11 (Turning Power On and Off)

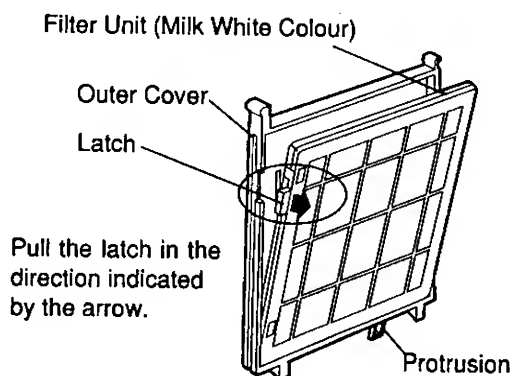
1

Remove the outer cover (on the bottom of the Projector).
Hold the tabs on the outer cover with your fingers and pull it in the direction of the arrow.



2

Remove the Filter Unit



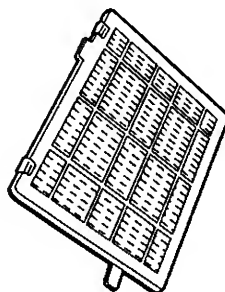
Filter Unit

Outer Cover

3

Use a vacuum cleaner to remove dust.

Place the vacuum cleaner hose on the filter and hold in one location for several seconds. Repeat this over the entire filter.



*Do not attach a brush.

Note

- Do not remove the filter from the filter unit.
- Do not place the filter surface in direct contact with hard objects. This may damage the filter. Do not continue to use the filter if it should become damaged.
- Do not rub the filter with the vacuum cleaner hose. This may damage the filter.
- Even if all black soot cannot be removed from the filter, this will not affect performance.

Cleaning and Replacing the Air Filter

4

Reattach the Filter
Reattach the Filter in the reverse order as it was removed.

■ Replacing the Air Filter

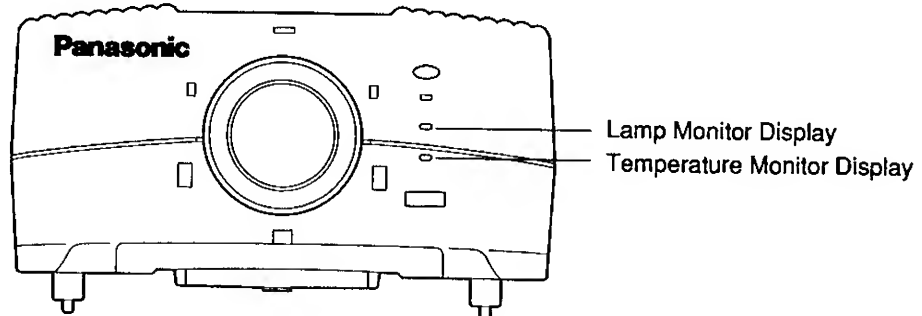
If dust cannot be removed by cleaning or if the filter is damaged, you will have to replace the filter. To replace the filter unit, follow the same instructions as for cleaning.

Note

- To obtain new filter units, please inquire with the dealer from whom you purchased the Projector.
Filter Units Spare Part No : TXFKN010N05

Monitor Display

The front panel of the Projector contains two lamps that display information on the internal condition of the Projector. If these Lamps are on, or flashing on and off, this indicates a problem inside the Projector. Please turn off the power and take the action indicated below.



Name of Warning	Lamp Display	Symptom	Check	Action
Lamp Monitor Display	Red Light is On	This means that it is time to change the Lamp Unit.		This light turns on when the Lamp Unit has been used for 7,000 hours. Please replace the Lamp Unit (see p. 31)
	Red Light Flashes Off and On	Detects abnormalities in Optical Lamp and the Lamp Circuit.	Did you turn the power back on immediately after turning it off?	Wait for some time until the Optical Lamp cools off, and then turn the power on.
			Is the Optical Lamp burnt out?	Check the Optical Lamp. If this is burned out, please replace it following the instructions on p. 31 through 33.
			An abnormality has occurred in the Lamp circuit.	Follow the instructions on p. 11 to turn off the Main Power, and contact your dealer.
Temperature Monitor Display	Red Light is On	The inside of the Projector is hot. $> 42^{\circ}\text{C}$	<ul style="list-style-type: none"> Check whether or not the air vents are clogged. Is the Projector being used in a location that is hot? Is the air filter clogged? 	<ul style="list-style-type: none"> Remove debris clogging the air filter. Please set up the Projector in a location where the surrounding temperature is between 0°C and 40°C, and the surrounding humidity is between 20% and 80% (no condensation). Please turn off the main power switch following the instructions on p. 34, and clean the air filter
	Red Light Flashes Off and On	The inside of the Projector has overheated, and the Lamp Unit has turned off automatically (reverting to standby condition). $> 90^{\circ}\text{C}$		

Note

- When the main power is turned on, the Temperature Monitor Display and the Lamp Monitor Display will flash on and off for an instant, and at the same time the radiating fan will rotate for a brief instant.
- Always follow the instructions on p. 11 (Turning Power On and Off) when carrying out the indicated actions for the Temperature Monitor Display or the Lamp Monitor Display.
- If the Power Display Lamp turns off after the Temperature Monitor Lamp flashes on and off, this indicates an internal malfunction. Please see your dealer for servicing.

Check Before Requesting Servicing

Please check the following one more time.

If this happens	Check the following
The power does not turn on.	<ul style="list-style-type: none">• Is the power cord properly plugged into the socket?• Has the main power switch been turned off?• Check the Temperature Monitor Display on the front panel of the Projector. Is shining or flashing on and off? Have you taken the proper action indicated on page 36?• Is the air filter properly attached?• Is the Lamp Unit Bay Cover completely attached?
Pictures are not projected.	<ul style="list-style-type: none">• Have you taken off the mirror unit?• Is the lens cap still on?• Is the picture input source correctly connected?• Is the input switch setting correct?• Are the devices connected to the projector operating properly?
Power source is turned off after few minutes.	<ul style="list-style-type: none">• Is the Noise Timer still on? (See page 28.)
Pictures are dim.	<ul style="list-style-type: none">• Is the lens properly focused?• Is the projection range proper?• Is the lens soiled?• Is the projector set up at a right angle to the screen?
Colour is Faint Shading is Poor	<ul style="list-style-type: none">• Have you correctly adjusted the colour and NTSC-TINT?• Have you properly adjusted equipment that is connected to the projector?
There is no sound	<ul style="list-style-type: none">• Is the audio input source correctly connected?• Has the volume adjustment been turned all the way down?• Is the mute on?• Has RGB Input been selected? RGB Input is not compatible with audio.
Remote Control does not work	<ul style="list-style-type: none">• Are the dry cell batteries used up?• Have you set the batteries with the poles in the right direction?• Are there any obstructions between the remote control and the remote control optical receiver?• Is the remote control being operated outside of its effective area?
Pictures are not projected properly.	<ul style="list-style-type: none">• Has the Projector been set to the proper Input ?• Has the proper colour system and signal mode been selected? (Refer to page 23 or 25)• Is there any malfunction in the video player or other equipment connected to the Projector?
Sounds are emitted from inside the Projector.	<ul style="list-style-type: none">• The heat discharging fan inside the Projector automatically adjusts its strength in five stages, depending on increases in temperature within the unit. As the internal temperature increases, the noise from the fan will also increase.

Specifications

Projector	
Type	LCD Projector
Power Source	TC-LT1F, TC-LT1G, TC-LT1H, TC-LT1X, TC-LT1C AC 220-240V 50/60 Hz TC-LT1N AC 110V 60 Hz
Power Consumption	160W (Stand-by condition : approx, 5W)
Colour System	PAL, SECAM, NTSC 3.58, NTSC 4.43
LCD Panel	0.9Type Transparent LCD Panels (3), 3Primary Colour Type, 921,600 dots (307,200 × 3)
Lens	Manual Zoom Type (Zoom Ratio 1:1.4), Manual Focus Type
Optical Lamp	100W UHP Lamp
Optical Output	400ANSI Lumens
Projecting Screen Size	33 type - 250 type (projection distance 1.2m ~ 9m) [at RGB input]
Screen Aspect	4:3
Projection Method	4 Methods (Reflection Possible Left, Right Up and Down)
Audio Output	1.0W (Monaural)
Connection Terminals	Video Input 1 and 2 *S-Video Priority NTSC 3.58, NTSC 4.43, PAL, SECAM S-Video (S Terminal): Luminance, Colour Signal Separation Video (Pin jack): 1 Vp-p (75Ω) Audio (Pin jack): Left and Right 0.5Vrms RGB Input (D-sub 15 pin) Horizontal 24 kHz - 49.7 kHz, Vertical 50 Hz - 75 Hz
Weight (Mass)	8.4 Kg (Net [only for main unit]), 9 Kg (Net [including mirror unit and set stand])
Dimensions	Width: 306 mm Height: 167 mm Depth: 506 mm (including mirror unit and set stand) (When using mirror: Depth 621 mm Depth Alone : Depth 402 mm)

Accessories Supplied		
<ul style="list-style-type: none"> • Remote Control (TNQE114) • R6 (AA) Battery × 2 • Lens Cap • Set Stand • Terminal Cap • Mirror Unit 	<ul style="list-style-type: none"> • Video Cord (1.5 m) × 2 • S-Video Cord (1.5 m) × 2 • Analog RGB Cord (1.5 m) • Polishing Cloth • Wall Mounting Fixtures • LCD Projector Mounting Fixtures 	<ul style="list-style-type: none"> • Screws for mounting LCD Projector • Screws for mounting on a wall • Operating Instructions • Installation Instructions

Customer's Record

The model number and serial number of this product can be found on rear of Projector. You should note this serial number in the space provided below and retain this book plus your purchase receipt as a permanent record of your purchase to aid in identification in the event of theft or loss, and for Warranty Service purposes.

Model Number

Serial Number

Matsushita Electric Industrial Co., Ltd.
Central P.O. Box 288, Osaka 530-91, Japan